

Aviation News

McGraw-Hill Publishing Company, Inc.

February 14, 1944



New Super-"Lightning": Twelfth improved model of fighting Lightnings is this new longer range interceptor and escort craft, capable of accompanying bombers from London to Berlin and back. Lockheed engineers say the new P-38 is 30 percent more powerful, has 30 percent more fighting range, climbs twice as fast at high altitudes as its predecessors, with combat maneuverability more than doubled.

U. S. Capital to Spark Post-War Foreign Lines

Development of air industry in Mexico and China forecast with revival of normal trade and clearing of warlogged commerce lanes...Page 46

Surprise Tactics Pay Heavy Dividends in Marshalls

Unexpected American swoop on Kwajalein after softening up other bases caught Japs napping and put Allies within bombing range of Truk...Page 18

Wind Tunnel Can Test Plane with Speed of Sound

Two new structures near completion at Wright Field; one 150-foot-high vertical tower for chutes, other 10-foot, 765 mph. tube...Page 10

CAB Report Urges Caution in Air Transport Expansion

Examiner declares moderate extension may be justified but warns of dangers in developing network beyond value of service...Page 33

Export Joins Domestic Airlines in World Route Fight

Appoints Thomas Burke, former State Dept. International Communications Chief, as vice-president in charge of international relations...Page 37

AAF Releases Data on New Improved Lightning

Twelfth model of speedy P-38 described as most versatile U. S. warplane, fastest climber, longest-range escort craft...Page 7

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THE AVIATION NEWS

Washington Observer

GLIDERS LOOKING UP—The Aero's glider activities are looking up. Ford Motor Co.'s recent sketchy release of the new Waco CG-12 was the first of a series of announcements industry executives say will build up interest in the phase of aviation production. The CG-12 carries a few more passengers than a DC-3. The current program of the four-tier CG-12 continues at several hundred a month.

POST-WAR GLIDERS—Hopes for development of a glider that will have practical post-war possibilities are rising with development of a striking, efficient, two-boom, "hybrid wing" designed by Howley Dowling for Airborne Transport, Inc., affiliate of General American Transportation Corp., manufacturer and lessee of railroad cars. It is the largest glider yet built in the U. S.

SUCCESSFUL TESTS—It was an experimental version of this ship which crashed at March Field, killing all but two of its crew, including Richard J. Post. Familiar to thousands of Los Angeles residents who have seen it in the air, the Boeing craft probably carries more than twice the passenger load of a DC-3. Although only a few are now being built, chances appear good that ocean mail, chosen over land, Air Mail's was impressed with the dramatic night demonstration of glider troop landings several months ago and is said to be a glider builder.

SHIPPED CARGO—Boeing is rated as one of the nation's foremost airplane designers, credited with the famous Douglas "Pod" single-plane craft which captured various records at sea. His giant ship which crashed last November a clear bill of health. Loose bags of shot used in the ill-fated test flight, were tossed off and

skiffed the sea when the ship was caught in lowland wash and porpoised. The pilot was unable to regain control.

"MAKINERS" FOR THE COAST GUARD—A new series of publicity photos of the graceful Martin "Maritime" was released by the Navy last week at the same time that it became known that the Coast Guard is slated to receive a quantity of this type for close-in coastal patrol and observation work. With the submarine menace loomed, Navy is turning back to the Coast Guard various patrol operations.

THE 13TH'S COMMANDER—With announcement of Maj. Gen. John K. Cassano to command the U. S. 13th Air Force, only one Air Force chief remained unknown to the public last week. The 12th's commanding general is already at work and an announcement from New Caledonia is anticipated soon, according to officers returning from the South Pacific. Close cooperation of Gen. Kenney's 8th Air Force (Northern Australia-New Guinea) and the 13th can be expected. All reports point to big offensive steps in the area.

"FOREIGN-AMERICAN" AIRLINES—The good neighbor policy with Latin America is taking a practical form at Mexico, where three or four U. S. airlines are buying interest in local lines. This adds emphasis to the belief by some thoughtful air transport observers in the country that this method is superior to all-American companies extending routes before the barrier. Controlling interest in the connecting lines is held by natives, and natives operate the service. This with enthusiastic support of the various Latin-American governments, pleading with

One of Navy's Marine Marines beached at Galena, Brazil



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Field Post Office, 205 W. 3rd St., St. Louis

(Copyright 1944, Vol. 5, No. 2) Printed with
composition type set by the American
Printing Co., New York, N. Y. Published
by the American Printing Co., New York,
N. Y. Second-class postage paid at New
York, N. Y., and at additional mailing
offices. Postmaster: Please send address
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our State Department and CAB for U. S. terminals, new equipment, and possibly interchange arrangements, it is agreed that Latin American air development will be speeded. It is held that our own government will move more rapidly on such applications than if they were to originate here.

FASTER TRANSPORTS—Plans for airline competition after the war see gaining momentum weekly. The well known Constellation, DC-4, and the Curtiss-Wright Constellation will lead the big dog field, but don't lose sight of the striking development in turbine engines. Substitution of 1,700- or 2,000-hp engines for the 1,200-hp models on the DC-4, for example, could add speed and range that would demand revision of many cut and reverse altitudes previously established by the air services, it is pointed out. Regular improvements are being studied for the other two super-liners.

SILENCE ON MAIL RATE CUTS—CAB officials refuse comment on reports that the 3 mill retail rate, now effective on a dozen airlines, will be cut still further in view of airline losses. Some believe this has its best basis in the attitude of Maurice Harkin Branch, who thought the 3 rate was too high and filed dissolving opinions in all except the Hawaiian Airlines case. There is no doubt the Board is watching airline earnings statements, but there is no hint, at least officially, that it is contemplating issuing the show-cause order that would be the forerunner of such action.

SPOTLIGHT ON FIGHTERS—The spotlight of publicity, as bombers and superliners re-



cently, may be shifted by the Army's public relations officers during coming months to fighters. Gen. Arnold has made no bones about our

Washington Observer

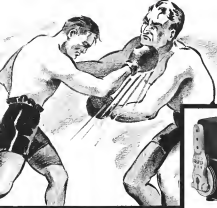
advances in high-speed, long-range fighters and fighter-coastals. The new Lightning is only the beginning. Probably few new types are well along, with others in various preliminary stages. Although for security reasons details cannot be published, publicly already released indicate bigger engines, more and bigger exhausts and more, heavier low wings, more low-blade and perhaps six-blade propellers, engines easily removed and re-installed, dual reduction propellers. Then there's jet propulsion. The industry, the Army and Navy, and research agencies such as NACA, are in full throttle.

LANDING PIAT PROBLEMS—Although for a time it appeared that excess aluminum might be put to work in mass-construction of aircraft landing gear, Washington authorities say the metal shortage for this purpose because of technical difficulties which are acute. One such reason, close to the problem of efficient disposal of the metal, said, "If we could save half with aluminum, it's raining out of our ears."

AVIATION GAS ALLOCATION TO ARMY—Although GPA refuses gasoline up to 25 acetone, it does not ration aviation gasoline except when it is used as a motor fuel. GPA makes regulations empower rationing of all gas "not for propulsion of aircraft." It has even curtailed the 85 and 87 octane used by some aircraft engine plants to test and break in engines. However, it is reported that the Army petroleum group is preparing to take over allocation of all aviation gas, regardless of octane, due to the demand

WAR AND PEACE DESIGNS—Curtiss-Wright has said with little in its research and experimental program, but enough has been disclosed to indicate a program of development as well as production program. A development division has been organized, with one objective, among others, of developing post-war aircraft. Other aircraft companies have similar departments, most of them shrouded in a hush-hush atmosphere.

MITCHELLS AS TRAINERS—Not generally known is the fact that the famous North American B-25 Mitchell bombers, somewhat modified, are now being used for aviation radar training. It has been disclosed that for more than two months aviation cadets at La Junta, Colo., advanced twin-engine school, have been receiving all their advanced flying training in the two-tailed medium bombers. Some of the combat equipment has been removed and the planes have been redesignated as AT-24's.



AAF Releases Data on New P-38, Most Versatile U.S. Fighter

Twelfth model of speedy *Lightning* designed by Army fliers as the fastest climber and longest range American escort aircraft, capable of accompanying raiders to Berlin and back.



The twelfth and "vastly improved" current version of the Lockheed P-38 *Lightning*, with engineering developments incorporated in recent months, is the most versatile U. S. warplane flying, with the longest range of any fighter in the world.

Power, rate of climb, range, service ceiling, speed and single engine performance have been boosted with double horsepower ability "more than doubled" and pilot controls simplified.

► **Was Fought for Months**—The War Department last week permitted such additional information to be released to the public by the manufacturer after the new P-38

had flown in combat for months, and it was apparent that the enemy had been able to study it under various conditions.

Major improvements are: ► **Horsepower increased 30 percent** with each Allison producing 1500 hp instead of the former 1130, by using an improved turbo-supercharger and new intercooler installations.

► **A 100 percent increase** in rate of climb above 30,000 feet, with "material" increase below that.

► **Range increased 33 percent**, permitting escort of bombers deeper into enemy territory—to Berlin, for example—than any other fighter.

'She'll Do'

"She'll do every damn thing that the jet propulsion job will do."

One of the West Coast's foremost aircraft engineers said that of the Lockheed P-38 while watching the super-voltage *Lightning* finish its last test flight at Lockheed Air Terminal, Burbank, Calif.

Publicly, Lockheed officials, including Chief Engineer Bill Hixson, refuse to make moderate expression, "She'll do," their surprising enthusiasm. They would rather let satellite reports tell the story. From now on, of performance and combat effectiveness built into the twelfth of the *Lightning* series.

All P-38 production at Lockheed now is devoted to turning out the new model.

► **Service ceiling raised to "well above 50,000 feet"** with better performance at all other altitudes. Just how high above 40,000 feet the new *Lightnings* can reach remains secret.

► **Straightway speed is increased** at all altitudes. Lockheed reported that the P-38 was the first production plane to better 400 miles an hour.

► **Single engine speed has been increased to 330 mph.**

► **Combat maneuverability is improved** by mechanical aids to the pilot, in the form of hydraulic aileron boosters combined with the old combat flap.

► **New seat power controls** and automatic temperature controls further simplify the pilot's task.

► **Versatile**—"On the score of versatility, the *Lightnings* stands out above all other fighting aircraft. It is used as a high, low and medium altitude fighter, as interceptor, a bomber escort, a ground strafe, tank buster, dive-bomber, ship buster, night fighter, glider tug and for smoke screening. It is the latest photo-reconnaissance plane in the AAF."

Already holding the title of the



Close-up of New Improved P-38: Although not greatly changed in appearance, the Army Air Forces' stepped-up *Lightning* flies faster, farther and packs considerably more punch than any of its earlier models.

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Wind Tunnel Built to Test Planes With Speed of Sound

Two new structures near completion at Wright Field. One is 150-foot vertical tower for gliders and models, while other is 10-foot tube with wind speed of 765 mph.

By ALEXANDER MCGURELY

Two new wind tunnels nearing completion at Wright Field, experimental center of the AAF's Material Command, are expected to provide new data for the Army's technical experts in the study of flight characteristics.

To be ready for operation in about a month is a 150-foot vertical wind tunnel, designed for testing free flying models and parachutes in a windstream of 135 mph. The windstream directed upward through a 12-foot diameter test chamber, is produced by a 1,300 hp electric motor, which turns a 28-foot fan, making the air up through the "jet." After it passes

through the test chamber it "overflows" over the top like a fountain, and passes downward through ducts to the bottom of the tower, where it is again drawn up through the test chamber.

Advantages—Reides giving the field a new means of testing all types of parachutes under controlled conditions, the greatest advantage of the vertical tunnel is expected to be in the study of flight characteristics of free-flying ballistic plane models which are tossed into the tunnel to ride the stream of rising air. Equipped with flaps, altimeters, rudders, and elevators, which can be manipulated through

a remote control magnetic device, the free-flying models can be put into various air maneuvers, such as spins, rolls, turns, at the will of the operator.

Credit for development of the vertical tunnel, and for most wind-tunnel work at Wright Field, is shared by Col. Paul Koenner, chief of the aircraft laboratory; Dr. Frank Wallendorf, expert civilian engineer, and Maj. Charles Lutz, chief of the wind tunnel unit.

The tunnel is said to be one of three of the vertical type in this country, the others being at Langley Field, Va.

Forward Near Completion—Due for completion this summer is a ten foot horizontal test chamber, with a 10-foot test speed—approximately the speed of sound—765 mph. The tunnel is expected to be the largest of its kind, with such a high speed, in the world, although there are other magnetic levitation diameter, including the 466-mile-an-hour, 28-foot wind tunnel at Wright Field, and the full-scale wind tunnel at Langley Field, where small airplanes can be tested in its 80-foot chamber.

Still continuing to do yeoman service at Wright Field, alongside the more sensational new ones, is the old five-foot wind tunnel which kicks up a 235-mile-an-hour wind-speed. Back in the days when it was first built at old McCook Field, that was some speed for a wind tunnel! It was moved to Wright Field, where the other Dayton Army field was closed in the middle '20's. Used for scale model testing, the five foot tunnel has the advantage of concordance of its test indicators with actual flight test data over a period of years. As a result, the AAF's expert engineers are able to predict, from scale model tests in the five-foot tunnel, with a high degree of accuracy, landing speed, rate of climb and maximum speed of a full-scale plane of the same design.

Col. Koenner and his staff expect the new high-speed wind tunnel to make a major contribution in providing additional knowledge about compressibility that obtains in increasing airplane speeds which is standing in the way of speeds much higher than 400 to 500 miles an hour. New principles of aircraft design are needed to make the airstream flow smoothly past the plane of greater speeds, and the actual use of the higher speed air-stream in the new tunnel will aid greatly in developing these new designs.



AN AVENGER STARTS A MISSION!

Shooting off the edge of the Sight deck of a U. S. Navy aircraft carrier, a Grumman Avenger torpedo bomber heads out on a mission. The sharp line of the



fat top backs up a high spray as the ship speeds through the water. Other photos give a last-gasp view of the carrier at the island.

WEST COAST REPORT

West Coast Plants Conduct Plane Cabin Pressure Tests

Study effect of sudden change from 30,000 feet altitude to 10,000 feet to determine effect of pressure change in event shell fragment pierces cabin

By SCHOLER BANGS

SEATTLE—All Western factories are engaged in pressure-tight investigations prompted by military requirements and post-war plans. A single phase of their research is "explosive decompression"—to learn what will happen to the pilot of a stratosphere bomber when he

parachutes when a pierced by a shell or bullet. They are finding that the well-conditioned human being can withstand sudden serious ill effect sudden changes in pressure. From altitudes of ten to fifteen thousand feet to about 10,000 feet, within a matter of seconds. Later publication of detailed results of the experiments made with human "guinea pigs" as well as animals, should remove any fears of post-war passengers over the prospect of the cabin of their pressurized air liner sprouting air leaks at high altitude.

Data Withheld—Results of West Coast research on pressurized cabins may not be given full release until after the war. But there is no disclosure of a military secret as predicting that post-war air lines may operate at "cabin altitudes" of less than 10,000 feet.

The lower the cabin altitude on a long flight, the more enthusiastic will be departing passengers. Many promoters envision fatigue at completion of flights that carry them no higher than 8,000 feet.

Passengers Put to Test—Approximately half the passengers who rode last week with the writer from Los Angeles to Seattle, with approximately one hour of flight at 13,000 feet to simulate high conditions over northern California, showed definite fatigue symptoms. The flight had been smooth, although on instruments much of the time. Crew members agreed that the "washed out" reactions of passengers reflected "altitude fatigue."

A subsequent check-up several passengers showed a 20-hour fatigue and ranging from slight headache and digestive disturbances to a "hot tired" feeling.

Tested Further: When the war ends the Pacific Coast will be ready to wage an intense campaign to attract tourists—no tourists. The variety of scenic beauty included in a border-to-border flight

runs from black desert to alpine and intermediate features in California, Oregon and Washington happen to be so located as to give great ground views to a score of vacation spots already familiar to millions.

Other West Coast cities hoping to stimulate post-war air travel beyond normal flow, will do well to keep their eyes on Seattle. No other Western city possesses air line ticket offices having the intimacy of "side-walk appeal." Seattle's are clustered in the city's metropolitan center district, and their wide windows, uncluttered by numerous travel displays, draw the eye toward ultra-smart interiors and brightly lighted counters where alert girls stand ready to take reservations to distant places.

The Shrinking Globe: Look for a revision of Consolidated Value Aircraft Corp's "80 hours to anywhere" advertising. Since Corvus began displaying "40 hours" in display ads and publicity, long-range military operations have been speeded to such an extent that 60 hours' has become obsolete.

ACCA Research

A continuing program of operations herefield in industry and government was announced by representatives of the Army, Navy, War Production Board and other governmental agencies convened at a session last week with the Statistical Committee of the Aeronautical Chamber of Commerce.

The meeting was held under the auspices of the chamber's newly established research department.



New Vertical Wind Tunnel: Nicknamed "The Silo" by Army men at Wright Field, this 150 foot structure for testing parachutes and light balloons model planes is nearing completion. The tunnel is one of three of its type in the country, the others being NACA laboratories at Langley Field, Va.

Sen. George's Report Praised by Industry

Recommendations for decontrolization called sound; proof chosen held for approval of legislation.

The paramount consideration in the handling of all industrial decontrolization problems, in the view of the Special Senate Committee on Post-War Economic Policy and Planning, "should be the preservation and strengthening of the American system of free competitive enterprise."

This is contained in a report of this committee, of which Senator George (D-Ga.), is chairman, and aircraft industry executives who have had an opportunity to analyze the report were enthusiastic about the approach and the prospects of help for the industry which the report recommends.

Legislation Soon—It is understood that legislation is now being prepared incorporating the recommendations of the report and will be introduced as soon as details can be worked out. That there will be opposition, there is little doubt, but most industry leaders consider the proposals so handsomely sound, that they believe these basic principles ultimately will prevail in Congress.

Of particular interest to the aircraft industry are the sections dealing with the handling of contract termination which recommends, among other things, that the government buy the subcontractors' claims and subsequently deal and settle with the prime contractor.

All-War Profiteers Canceled—The report also holds out promise of help for those industries re-

sponding actively in war production, which strikes as close home to the aircraft industry as to any.

The report holds that every action taken should be controlled by the overriding necessity of getting American business on a full employment basis with the minimum possible delay.

"The dollar value to the government of the things being dealt with should not be lost sight of," the report adds, "but its consideration should not interfere with the accomplishment of this objective."

Economic Use of Plants—"The government plants as large percentage to the national defense should be disposed of in such a way as to result in their greatest economic use," the report says, "but the effect on the general economy should be the first consideration in determining the disposition to be made of them."

All the plants suitable for the production of peacetime goods and not needed for the national defense should be sold where this can be done without causing undue overproduction in any industry.

The report recommends that no government plant should be disposed of as a manner to create monopoly, strengthen monopolies already existing, or otherwise encourage monopoly, but the fostering and encouragement of competitive enterprise and small business should be a prime consideration.

Surplus Materials—Surplus goods should be disposed of in a manner to best utilize their economic value, the report urges, and as expeditiously as possible and that at the same time they should not be forced on the market in quantities greater than the civilian market can absorb, without unduly disturbing the economy,

or in quantities that will cause the shifting down of the factors producing them.

The report states that no government-owned plants should be sold or disposed of as surplus property should be destroyed except in circumstances where their continued existence would have such a pronounced harmful effect upon the national economy that their destruction appeared imperatively necessary.

Renewal of U. S.-Owned Tools—When previous arrangements have been terminated by the contractor, the report states that government-owned machinery, tools, equipment and inventories should immediately be repossessed from privately-owned plants.

Private contractors and subcontractors and the various layers of contractors below subcontractors, the report says, have all contributed in one way or another to their ability, to the war effort and the government owes the same obligation to all of them whether or not their claims are legally apparent but government-owned contract instruments produced must be designed to afford them equal protection, courtesy, speed and fairness.

Every possible effort should be made to overcome any legal obstacles that may stand in the way of this purpose.

Speedy Settlement—Of prime interest to the aircraft industry is the committee's recommendation in the interest of speed and certainty, settlements reached between the government and a contractor should not be subject to review by any independent agency (such as the board), but where the government and the contractor cannot agree, the contractor should have the right of appeal to an independent tribunal.

As the report points out, the right of appeal to the courts, if it were the only method, would be very imaginary, since real and smart money would be drawn so cleverly that settlements would drag interminably. It is believed that the contractor should have the right to go to the court of claims if he wishes, and additional compensation be allowed to facilitate the functioning of that court.

Proposals—However, the committee's recommendations hold out brighter promise to the aircraft industry's war contractors, with the assurance that some more satisfactory method should be found and

suggested there. I By authorizing the government to indemnify its contractors in arbitration and providing that arbitration shall be held under terms of the bilateral arbitration act on the demand of the contractor, I By having umpires appointed by the office of decontrolization in every judicial district, with adequate salaries and adequate staff, I By setting up a review board in Washington to be appointed by the office of decontrolization.

It is recognized, the report comments, that in the hurry of getting out contracts, many of them contained clauses that were unconscionably harsh or entitled claims that should have been satisfied since at the law now stands, contracting officers are bound to take advantage of every inclusion or omission no matter how inequitable it may be.

Special Air Group In Senate Advocated

Sen. Clark's subcommittee oversees studies but several committee members see need of new body.

A special aviation committee may be formed soon in the Senate holding its membership from the Foreign Relations and Commerce Committees.

Senator Bennett Champ Clark's Aviation Subcommittee of the Commerce Committee is continuing its exploration of all problems connected with post-war domestic and foreign aviation, but some committee members feel that before a policy can be proposed for this country in the foreign field, a special committee including foreign relations Senators should be formed.

Questions Raised—These questions are raised as at today the United States has no policy for participation in international air commerce.

The Senators called Assistant Secretary of State Adolph Berlin, Jr., before them last week to question him on progress made in this connection since he appeared some months ago to present the Inter-departmental Committee report.

Referring to British statements that Great Britain has set its policy in regard to international air commerce and will be ready as soon as the war ends, the Senators queried Berlin at length on the likelihood of an early exchange of views with the British.

Recognition

A top indicator of the increasing attention being given to labor relations within the aircraft industry is seen in the new provisions of the Federal Labor Law, permanent representative of management on the Airframe Manufacturers Panel of the NLRB in Washington.

In addition, the industry will set up a research organization within the Boeing Company, a temporary representative body has been set up with a decision could be reached on a permanent member.

Differences of Opinion—Dilemma also has been asked about differences of opinion on the Inter-departmental Committee, which the report failed to show Berlin told the committee there were differences but the committee secretariat confirmed reports that the dissent was by Thomas Burke, when chief of the Division of International Communications, had not been placed officially before the Committee.

The Committee plans to have Burke testify soon. Others scheduled to be heard are Juan Yague, president of Pan American Airways, and Admiral Emory S. Land, chairman of the Maritime Commission which is studying the legislation he proposed to facilitate entry of steamship lines into the aviation business.

The Committee stresses that its work will be in the preliminary stage and that it is proposed to take no position as yet on the many problems confronting the country from the international standpoint. Senators still will stand testimony on the relative merits of each plan and on the chosen instrument of operation.

Committee Urged—The members feel that before they can make policy recommendations, however, they would work in a special committee with Foreign Relations Committee members.

Secretary of State Cordell Hull meantime announced last week that he will appoint two of three new assistant secretaries of state to help the department in its post-war and post-war problems. In this connection, it should be noted that there have been constant reports that Hull might appoint a secretary for air.

Form Body to Study Aviation Legislation

The Civil Aviation Joint Legislative Committee was formed in Washington last week by a broad group of aviation interests as a follow-up to a meeting a month earlier, with members that the new organization would prepare its own charges to the Aviation Legislation Act.

Three subcommittees were appointed—one to study federal legislation, another state legislation, and the third post-war planning.

Scope Broadly Observed—Among groups represented at the meeting were the National Aviation Trades Association, National Aeronautics Association, Airline Owners and Pilots Association, Aircraft Builders and Manufacturers Association, the Aviation Insurance Group, the Aeronautics Committee of the American Bar Association, the Aeronautical Chamber of Commerce and the Bureau of Aeronautics. Some present said they were there only as observers.

Chairman of the Committee is William F. McCracken, Jr., FAA attorney. C. R. Henry, of Pratt Air College, is secretary, and John Morgan, manager of the Bureau of Aeronautics Department of the Aeronautical Council, is treasurer.

'Fortress' Gains

For the fifth consecutive month, deliveries of Boeing Fortress bombers to the Army Air Corps have increased, with 8 percent more B-29's delivered during January than during December.

While starting production totals were not disclosed by the Bureau of Aeronautics, because it had been declared previously that December output, which now has been bettered by a percentage of 10 percent higher than that of the preceding January. On the basis of these figures, it is evident that the big bombers are now rolling off the production line at a rate twice that of a year ago.

Bombers Converted

The first of three Lancaster bombers converted to transports for Canadian government use in wartime trans-Atlantic service to carry troop mail and official passengers there made its last flight early this month from Montreal, Quebec, 1,580 miles, in 6 hours, 31 minutes.



NATIVELY THANK U. S. FLYERS FOR HELP.—Tough English by American maneuvers, the inhabitants of a South Sea island were on the sandy beach a "thank you" note for American flyers who sent them aid.

Plane Engineering Group to Ask Simpler Airworthiness Regulations

Proposals to be submitted to CAA and CAB next week suggesting modifications of current type certification system.

Criticism of industry opinion concerning the type and extent of regulation indicated to encourage continued aeronautical design progress on a sound basis is incorporated in recommendations for simplification of current civil aircraft type approval system which will be submitted next week for consideration of the Civil Aeronautics Administration and the Civil Aeronautics Board by the Aeronautical Chamber.

The proposals were adopted at a meeting in St. Louis Feb. 1, and 2, of the Chamber's Airplane Technical Committee, composed of chief engineers and top technical executives of the aircraft industry.

Considered as Modifications—E. W. Norris, manager of the Technical Department of the Chamber, pointed out that the recommendations developed at St. Louis "are not offered as a pattern for the ultimate, but merely suggested as modifications of the current type certification system which appear to be warranted by experience. We believe that the adoption of our recommendations will encourage technical development and at the same time increase the degree of safety and reliability of the aircraft.

The recommendations deal not only with the CAA type approval system, but also with several related subjects which the committee committee has "in being" as to the design, utility and cost of civil aircraft."

Responsibility—Norms said the proposals of the Committee "are offered in a constructive spirit and we are sure that efficient aircraft airworthiness standards are the joint responsibility of government and the industry."

With this view in mind, an industry "Airworthiness Requirements Committee" was established at the St. Louis meeting to cooperate with the CAA and CAB in the development and maintenance of suitable airworthiness requirements.

Looking toward "a vastly expanded civil activity after the war," Norms said the committee has suggested "certain relaxation of detailed checking procedures, in

favor of objective administration and general supervision to permit efficient regulation of post-war activity."

Regulation Marked by Research—The Aeronautical Chamber, Inc., of New York, is in hearty accord with that objective of the Civil Aeronautics Act of 1938 dealing with the encouragement and development of civil aeronautics. Norms said: "We feel that this should be the theme of any regulatory program concerning civil aircraft design, construction, performance, and operation. Emphasis should be placed upon a broad research program which the government to establish a firm basis for regulatory material which leads, rather than follows, new developments in the industry."

Chief points of the Committee's recommendations include:
Establishment of an airworthiness Requirements Committee to assist in the development of efficient design standards for personnel, for airlines and for military aircraft, the committee to be composed of designated representatives from each company, appointed by and responsible to the engineering associations. The members will study airworthiness requirements, coordinate technical details with company specialists, and make official recommendations to the government through the Aeronautical Chamber.

Recognition of government approval of airplane designs, with separate treatment for air-center aircraft. The members will agree

Endorsement of U. S. participation in discussions with foreign countries leading to the establishment of uniform basic safety standards of aircraft. In this connection, it will be recommended that U. S. airworthiness standards be translated into Spanish and Portuguese and transmitted by the CAB to aeronautical agencies of all Latin American countries.

That the CAA give full consideration to the data obtained from the excellent war-service records of commercial airlines, the Air Transport Commission and other service facilities as a basis for granting

Enyart Heads NAA

Col Robt W. Enyart has resigned as president of National Aeronautic Association and the Executive Committee, accepting his resignation with regret, advised William S. Enyart, its president for the subsequent term ending June 29.

It is announced that William will become aviation editor of the New York Herald Tribune. He is not expected to cover his committee as a member of Aviation for the New Year.

Report with Enyart president of Baltimore Aeronautics Association, Inc., of New York, Enyart's new post as NAA vice president will be filled by Glen H. Eastman of the Los Angeles Chamber of Commerce, which was made a member of the board of directors of NAA.

airworthiness certificates to those models which may be of commercial value.

That current military operations of aircraft are providing the greatest aeronautical experience in the history of the world and should be used as a basis for suitable revision of the airworthiness requirements.

Wichita Conference On Kansas Problems

With few exceptions, speakers at the Kansas State Aviation Conference at Wichita this week (Feb. 14 and 15) are being confined to Kansas aviation problems. The exception is Col. Roscoe Turner, banquet speaker on the opening night.

Among others to appear are S. B. Warren, assistant to TWA's traffic vice-president, William J. Lawson of Braniff, and Donald Bell of the Wichita Chapter. Bell will discuss his feeder line program.

Post-War Plans—Kansas aircraft industry representatives will describe post-war plans and demonstrate at municipal airport the landing and takeoff requirements of various types of planes. Kansas men with airport experience, one of them Alfred MacDonell, Wichita director of parks and airports and regional director of the American Association of Airport Executives, will discuss legal aspects on airport construction, costs and financing, and airport income sources.

Big War Transports Subject of Debate

Truman Committee looking into Merr and Kaiser-Hughes projects.

By BLAINE STURBLEFIELD

Substantial inquiry by the Truman War Investigating Committee into the Navy's contract for 20 Martin JRM-1 Mars airplanes actually will cover the general field of large military cargo aircraft.

The Committee at this time is not planning to take a position for or against the Merr contract. Mr. Truman said witnesses his staff had understood that the AAF was cutting back on big cargo carrier requirements and that some orders had been canceled. He granted there might be a definite need for the additional four flying boats. "We just want to get the facts," he said.

K-R1 Cancellation Move—This inquiry stems back to the construction in progress of three very large bombers flying boats on the Merr Contract by Henry J. Kaiser and Kaiser-Hughes. Neither Army nor Navy has contracted for production of the Kaiser-Hughes boat, but many service officials, and some officers of the War Production Board, are asking that the K-R1 project be canceled, allegedly because it is turning up maverick and plywood boat race.

Most observers agree that Kaiser and Hughes had no real idea the President over the heads of the Army and Navy. It has been reported that WPP Chairman Donald Nelson himself was strong for it but that when press and public opinion clamored the new plans for it were scrapped over the submarines.

Controversy—This controversy over the K-R1 project continued until recently WPP sold for a request by the Navy to build a number of the big wooden flying boat experiment. A study was made and certain options were submitted, although apparently no definite recommendation had been made up to now.

Conclusions to be drawn from Aircraft Resources Control Office expressions are that the prospective utility in the war of a plane like the Mars which weighs 148,000 lbs. is accomplished by electrical connection through the wire leading off from center of trough. The necessary targets are fired on by anti-aircraft personnel as a means of suppressing their activity.

the K-R1 design. And the engine to be used on it—since as the requested by the Navy and other production plants will be very scarce.
Trusts Awarded—Regardless of what decision is reached concerning the big wooden seaplane, officials involved in it say they have nothing but praise for administration of Kaiser and Hughes for the effort they have made and are making. There is some jealousy stirred into the controversy, but many engineers and service airmen are anxious to see what the wooden boat will do and they would dislike to see a stop order issued before at least one of them is completed.

The Truman Committee's preliminary thoughts seem to be that if the Army and Navy don't want one like the Mars, there is reason to suppose they don't want any Truman's inquiry may show that some officials at the Bureau of Aeronautics didn't want the Merr. They are in agreement with Admiral John Towers who, when he was Bureau chief and when the Mars was a patrol bomber, criticized it severely as being obsolete.

Mars' Favored—In favor of the Merr, the Committee will be told by officials concerned that, as now converted to a cargo-troop carrier, it is an efficient plane, that it has

air records in range, load lift, and gross lift; that it is the only big plane available for production that it is an intricate work with supplies which could not otherwise be delivered for lack of ground facilities.

Post Office Balks At Postage Boost

Furdan points to increase in revenues in opposing price increase from six to eight cents.

The proposed increase from six to eight cents for postage airmail postage rate that Congress sent the President last week as a feature of the tax bill had no support from Smith W. Furdan, second assistant Postmaster General, whose office has jurisdiction over airmail.

Rep. Louis Ludlow, of Indiana, told the House later, as he described the Treasury-Post Office appropriation bill for fiscal 1945, that "with revenues as satisfactory and so promising for the future, Post Office is opposed to the increase, and asserted to Ludlow's subcommittee, "I believe that the annual rate is sufficiently high at this time."

Cites Rise in Revenues—The appropriation bill itself, as reported by Committee, reflected what Ludlow called the "floating rate upward spiral of airmail postage. As approved by the House Appropriations group, it allowed \$33,000,000 for domestic airmail service, \$25,210,000 below the budget estimate.

Furdan Ludlow said, "brought as the existing information that we could reduce this estimate in the net amount of \$20,019,911, due to new rate reductions in process of being put into effect in the competition post Western Air Lines, Hawaiian Airlines, Delta Air Corp., Northwest Airlines and Chicago and Southern Airlines."

New Routes and Exclusions—In view of the prospects that there may be further reductions by early rate readjustments, we felt justified in making a small additional cut in airmail.

He explained that the appropriations agreed on would provide \$93,139 for new routes and extensions and \$1,076,542 for extension of service temporarily suspended. The Committee allowed \$3,488,207 for anticipated increase in total volume.



ROCKET GUN:

This gun shoots rocket-propelled targets for anti-aircraft practice for the Mars which weighs 148,000 lbs. is accomplished by electrical connection through the wire leading off from center of trough. The necessary targets are fired on by anti-aircraft personnel as a means of suppressing their activity.

Congress and War Agencies Speed Industrial Reconversion Program

Report of Special Senate Committee on Post-War Economic Planning and Policy proposes creation of Office of Demobilization to handle problem.

The general framework for industrial reconversion showed signs this week of taking shape at last, as both Congress and the war agencies accelerated their efforts to get something on paper that would show the nation's industries what they may expect when their war contracts are terminated.

The picture even now is far from complete, but there is no longer any question but that definite progress is being made in the demobilization of a reconversion program and that the program itself has reached a stage where it offers some indication of what the future holds.

Report—The most revealing development was the issuance of a report by the Special Senate Committee on Post-War Economic Planning and Policy. This report, which was drafted with eagerness, proposed the creation of an Office of Demobilization which would direct the reconversion of industry. The Murray Hill contract termination, which is expected to fit into legislation growing out of the report of this committee will be introduced immediately, it is reported. Then, in the Senate, the ball is rolling.

On the House side, docks were cleared for action and there was every indication that despite a slow start the reconversion-industrial reconversion program would now be given prompt attention there. Representative Coleman, chairman of a Special House Committee on Post-War Planning, revealed that Bernard M. Baruch had accepted his invitation to serve as a special adviser, and announced that his committee had held its first meeting. Baruch's participation in the committee's discussions was predicted some time ago, since he served as unofficial adviser to the Senate committee, and it was well known that his general will be available to work with administrative leaders so that the legislation finally drawn would reflect the united thinking of all persons concerned with the topic.

Baruch's Deal—Although Baruch's involvement up to the

Office of War Mobilization has remained steadfastly silent about its plans, it is well established now that Baruch and his assistant, John Hancock, have not worked at cross purposes with the Senate's committee head, on the contrary, had an influential hand in shaping the Senate's final recommendations. Similarly, his influence on House deliberations may be expected.

Nothing definite came from Baruch's office on the subject, but it was reported that a contract termination article to be used by sub-contractors was virtually complete. That article will be announced by OWM Director James F. Byrnes, who issued the Baruch-Hancock contract termination article and the principles of that statement several weeks ago.

Nelson SHE in deep-blue-while speculation roused over who would get the job of heading the reconversion. Despite what appeared as the passive opposition of Baruch, WPA Chairman Harold M. Nelson remained in the driver's seat, at least temporarily. Reports which gathered over the week end to the effect that Nelson had finally decided against the reconversion were positively denied in well-informed quarters. One intimate of the WPA Chairman asserted that Nelson did not propose to quit, but, as the secretary, intended to move ahead with conversion plans until called off of the job by the President. In other words, Nelson was described as assuming the title by default.

From a number of sources there was indication that Charles E. Wilson, executive vice-chairman of WPA, was the choice of Byrnes and Baruch. Placing full authority for reconversion in the hands of the Production Executive Committee, which is headed by Wilson, was explored as a means of by-passing Nelson. It was known, but it is not known whether or not the White House group they withheld official comment.

Reconversion—Reconversion of the War Production Board, in streamlining its own reconversion job, agreed several agreements. In general, the

reorganization plan, which was worked out by Arthur D. White, retiring Office of Civilian Requirements Director, would split the agency into two parts. One part would be headed by a vice-chairman for military requirements, and this would would continue war production operations. The other, headed by a vice-chairman for civilian requirements, would concentrate on reconversion and, as war contracts are cut back or canceled, would direct industrial demobilization.

As presently planned, the reorganization would retain a chairman and executive vice-chairman, presumably Nelson and Wilson. The two chief vice-chairmen would operate under the executive vice-chairman. Also operating on this level, and under Nelson, would be the Aircraft Production Board and the Production Executive Committee. Both of these units would appear, of course, on the military requirements side of the chart.

Eire Builds Huge Flying Boat Base

Construction under way at six mile strip near Foynes.

Eire, geologically aware of its growing geographical importance in world transportation, is developing a new base for trans-Atlantic flying boats at Rosanna, on the Shannon river, eight miles above the great base at Foynes, which is eastern terminus for American Export Airlines, Pan American Airways and British Overseas Airways.

The new base will use many of the old landing areas but some new runways will be built, longer and wider. Being well sheltered in its position it makes up the Shannon, which is one of the best.

Alternate Landing Area—Rosanna is also favorably situated with radio station IEP, which is used for radio aid. And due to meteorological conditions existing at Rosanna and Cork, in Southern Eire, are supplements the other as a landing area in bad weather.

American engineers are aiding in construction of this huge base and are working on plans for enlarging the smaller landing field at Rosanna to accommodate huge trans-Atlantic landings.

Eire is taking the lead in development of this reconversion job, expected to be one of the largest of its kind.



Courtesy Is Not Unpatriotic

BEFORE Post War when people try to be courteous, they received personalized attention and courtesy from American Airlines. They received thoughtful attention and care, as integral part of America's service, as much as the time-saving advantage of our level.

Then came the impact of war! Suddenly airport planes became so precious that about half of America's flagships were devoted to the military emergency. But the character transportation problem

continues to increase in the air and airports. The four employees pictured above are typical of America's thousands, all of whom believe that politeness and consideration of passenger welfare, so much and appreciated even more now than in peacetime.

American's passengers are people—and women who are working hard under the war system. Although flagships are technical scientists, Army and Navy personnel, manufacturers, engineers and many

others who are more successfully active than ever before. And it is our duty, it is America's duty, to make their trips as useful as possible.

In the air people are detached from the world, but from the ground on the ground. To make their flagships trips members of relaxation in the air of employees in this way and so.

American Airlines regrets there are too many flagships to serve many more national leaders.

COMMENTARY

Air-Supported Surprise Tactics Pay Heavy Dividends in Marshalls

Unexpected American swoop on Kwajalein after softening up other bases, caught Japs off balance and put Allies within 1,100-mile bombing range of important base at Truk.

Surprise has paid heavy dividends again in the Pacific theater. As early as Jan. 17, aircraft from forward bases of the Seventh Air Force began a series of daily raids on the relatively near and heavily defended Jap positions in the eastern group of the Marshalls, including Mid, Jaluit and Taka (Makop) Laboratories, Mitchell, Wotowai, Desulless dive-bombers (A-24S), and Zerohawk fighter-bombers, all took part in these attacks.

The new model Mitchells, with top-of-line T-7s on board in the nose and heavy battery of forward-firing 50 caliber machine guns, were particularly deadly in fast deck-level sweeps. Then suddenly, during the last days of January, in a closely coordinated action with the powerful naval task force, everything in sight was thrown at Kwajalein.

This strong team, with its excellent harbor and available air field on Ro Island, is almost exactly in the center of the entire Marshalls group, and its capture outflanks the other strong positions in the east. As Admiral Mitsunaka put it,

"the assault took the enemy completely by surprise." The bitter lessons of Tarawa had been quickly learned.

Seventh Air Force Clears Deck.—Air power had isolated the target. The series of earlier attacks on the eastern Marshall bases not only threw the enemy off the track as to our real objectives, but by smothering the air fields and installations helped to gain complete air mastery over the entire area. In the first Liberator attack on Koo Air Field some days before the main assault, the air-warehouse fire had been fairly intense. At zero hour, however, as a result of the heaviest air and naval bombardment ever made in an island of comparable size, there was no fire, and the structure damage was had been obliterated, just as on Parrotiers, which operation, however, was almost entirely from the air. Carrier-based planes smashed under the actual landings on Kwajalein.

Where Do We Go from Bell?—Possession of the Ro air field, with its four large strips, brings within easy range of the deadly Mitchell the other principal stage in the

Atlantic Shuttle

Military planes and transport aircraft are now crossing the North Atlantic on virtually fixed schedules—on the average one of one every 20 minutes.—Robert F. Lybeck, aviation manager for the Colonial Beverage Oil Co., told the Propeller Club of Boston. The flights total 500 a week, Lybeck said, and he predicted that "within five years of the declaration of peace there will be 200,000 privately owned planes in the United States."

The club passed a resolution favoring a policy permitting American ownership companies to enter the aviation field in competition with foreign marine carriers.

Marshalls—Wotje, Tarou, Jabrit and Mili (175 to 250 miles to the northeast, east and southeast.) Eniwetok is some 400 miles to the northwest, well within the radius of action of the Liberators, as are Kusaie (400 miles) and Pohnpei (650 miles) to the west, in the Carolines.

The formidable base at Truk, itself, is less than 1,200 miles due west, again within reach of the long-ranging Liberators, which have set up a record of long over-water missions with the Seventh Air Force. Commander, the big navy patrol-bombers, also could do a good piece of softening up on Truk. As the fleet moves on, its powerful fighters and dive-bombers will increase the total threat to the enemy from the air.

Air Mastery Must Be Maintained—In view of the disconcerting ability of the Japs to hop fighters and bombers from base to base and replace even the staggering losses

THE TOUCH OF TOMORROW IN THE PLANES OF TODAY



It All Adds Up To Subtracting Zeros

Today's apprentice gunner enters a deadly trade—defending American bombers against attacks of Jap Zeros and other enemy fighters.

To follow his trade and survive, the gunner first has to learn how to "poke 'em off around the clock." His training must be thorough and painstaking, and it must come with a bar's breadth of being the real thing. That's why Fairchild developed the GUNNER.

This advanced trainer has the essential characteristics of the bombers from which our student marksmen will soon shoot it out with Axis pursuits. From a power turret, similar to one on a Flying Fortress,

each Redbird is taught to pick off tiny targets while moving at better than 350 miles per hour. It's fast, tricky work and it takes a keen eye, steady nerves, precision equipment. It's the kind of training that pays off when the chips are down.

Fairchild's GUNNER, from which apprentice marksmen will step into bombers and thrust into action, is one of the largest, speediest training planes ordered by the Army Air Forces. Powered by two 12-cylinder, inverted, in-line, air-cooled Ranger engines, the GUNNER is a typical example of Fairchild's "touch of tomorrow in the planes of today."

BY U. S. WAR BONES AND STANDA

Fairchild Aircraft

Division of Fairchild Engine & Airplane Corporation, Huntington, Maryland... (Burlington, North Carolina)



PACIFIC CARRIER FERRIES UNLISTED MEN:

In varying stages of attire, 2,500 new enlisted men are afloat on the hangar deck of a monster U. S. trans-

port carrier. The men are being ferried from San Francisco to a distant Pacific base.



GENERALISSIMO REVIEWS HIS PILOTS:

Chiang Kai-shek is shown in this new Signal Corps photo reviewing a Chinese fighter group at a training base somewhere in India. With the Generalissimo are Col. C. S. Lee, commanding officer of the Chinese Wing, and Gen. Chao Chukun, secretary-general of the National Committee of Aeronautical Affairs of China.

suffered over and over again in the heavy air attacks in the Westok area, New Guinea, and at Rabaul, the silver Mustangs must be under steady reconnaissance. This is particularly necessary with the strong naval task force in the harbor formed by the reefs making up the large Kwajalein atoll.

Our possession of Midway and

Tarawa in the Gilberts, and the fact that Kwajalein itself cuts off most of these bases from reinforcement by sea and air, renders the enemy's task much more difficult. It all adds up to a master stroke, and reveals a technique which promises well for this part of the long and difficult road to Tokyo.

NAVIGATOR

House Group Studies Post-War Problems

Problems West Coast will seek to solve problem with assistance of U. S. help or interference.

While not undertaking to determine a solution of the problem of post-war employment in the aircraft industry, a subcommittee of the House Military Affairs Committee has recognized the problem and is giving it the members' sympathetic attention.

The subcommittee, headed by Rep. John S. Sparkman, Alabama, reported that "the stabilization of post-war employment (especially) in the Pacific Coast area is one of the most important of these (post-war) problems that has developed in date from our all-out war effort and we urge that a thorough study be made of this problem by the appropriate Federal officials and Congressional Commissions."

West Coast Policy—"It is our observation that the people living in the West Coast area are determined to solve their problem with the least possible help or interference from the federal government," the report said.

"However," the report adds, "if the federal government moves too abruptly from a schedule of more than twelve billions in war contracts in the past three years for this area to a complete stoppage of such contracts, the federal government must cooperate in helping to solve the problem and the study we recommend should be the first step."

Consentation of Industry—The Sparkman committee reported that the aircraft industry has done everything within its power to meet the demand for planes of all types and that one of the most difficult factors concerning the airplane manufacturing industry has not been made any easier by the heavy concentration of the industry on the West Coast and especially in the southern California area.

Pointing out that the continued increasing demands for all-out aircraft production calls for a still further increase in personnel or a further increase in output per employee, the report takes notice of the fact that the increase in airframe production by weight during the past four years already has reached more than 42 times the weight production of four years ago.



Wright put an air-cooled aircraft engine in a tank?

Because an other engine packs as much power into such small size. Tanks and gun carriers slip into battle on caterpillar treads, but they are similar to aircraft in that they require an engine high in power, small in size, and light in weight. Other engines of equal power are heavier, creating a vicious circle in which large size demands some more power, to turn adding weight and calling for more power to maintain speed.

Seasoned by years of operation in transport, private, and military planes, the Wright Whirlwind was the logical choice for the Army's rugged tanks

and gun carriers. This engine, weighing but a meager 15% of the M-4 tank's 30 tons, packs 400 HP plus in a 45" diameter.

Entered in our armed divisions, the Whirlwind was assigned to combat duty with virtually all medium tanks and heavy gun carriers to reach the fighting fronts. In no sense a competitor to the air transport hauling Cyclone, the Whirlwind has nonetheless lived up to the Wright engine family tradition for light, compact power, adaptable to many purposes.

Wright engines pay their way.



AIR BOMBS AND MOVIES AT SEA.

While anti-air men work on heavy bombs on the hangar deck of a new U. S. Navy aircraft carrier, and amatrix machinists check over their Greenport Hellcats, officers and men in the background get relief from "sea tension" by watching a movie.

Wright engines pay their way.

WRIGHT Aircraft Engines

"A Single Pound Saved on a Plane... is Worth Over \$80⁰⁰"

**SAYS CHARLES FROESCH,
CHIEF ENGINEER, EASTERN AIR LINES**



"The great importance of weight reduction in airplane manufacture cannot be overemphasized. In the case of military craft, reduced weight is, of course, translated in terms of increased firepower, range, armist, speed, its measurement in dollars-and-cents value is impossible. But when commercial planes are considered, the saving of even one ounce is reflected in a plane's enhanced productivity from a financial point of view. On Eastern Air Lines, for instance, one pound of payload is worth, conservatively, over \$90 of revenue during the first 5 years of the life of a plane."

SEND FOR BOOTS WEIGHT-SAVING BOBBIT TOYAT

A comprehensive study of the comparative weights of different types of self-locking nuts. For the convenience of aircraft designers, engineers, operating and maintenance personnel.

BOOTS NUTS SAVE UP TO 60 LBS. PER PLANE

- Now used on all types of military aircraft, fighters, bombers, cargo planes.
- Also the war, will be used on commercial planes, also.
- Are lighter, yet tougher than other nuts.
- Have increased load capacity of 1/2 military planes—1/2 are one and a half million pounds.
- Have greater re-elasticity.
- "Outkick the plans."

BOOTS SELF-LOCKING NUTS
"There's No Chance for a Nut-Working Error!"



ANCHOR NUT—MIND STYLE

This is one type of the Anchor Nuts—All-Steel Self-Locking Nuts

Boots Aircraft Nut Corporation, General Office, New Capon, Conn., Dept. 1.

AIRCRAFT PRODUCTION

Greatest Production Gain Shown In Urgently Needed Combat Types

January unit output is same as November figure but airplane weight was 90,500,000 lbs. vs. 85,700,000 in previous month.

By SCOTT HERSHEY

Significant feature of last month's aircraft production, in view of the stepped-up military operations on all fronts, was that the most marked acceleration was in the urgently needed combat types, an increase noted particularly in heavy four-engine bombers and long-range fighters, which substantially balanced the planned decreases in trainers and other tactical models.

Important aspect of the January output on the whole production picture was in total weight produced, which was 90,500,000 pounds, an increase of 5.4 percent from 85,500,000 the previous month. Even this does not tell the whole story, however, since the industry's achievement is further emphasized when the unit and weight production for the last three months is compared and analyzed.

How It Goes: In November, unit production was 3,718 airplanes and the weight was 85,000,000. In December, the unit production rose to the all-time high of 3,822 airplanes and at the same time weight also showed an increase to 85,700,000. Last month's unit production was 3,718—same as last November—and weight was 80,300,000.

Thus, taking the identical unit productions of November and January—3,718—the difference in weight between the two months was 4,800,000 pounds. Therein, lies the story of January production.

Weight Emphasized: From this it can be readily discerned that unit output will not show the spectacular gains that it has for the past two years. There will be gains noted in unit output perhaps from time to time, but present schedules are not concerned with numbers of airplanes, but rather with the weight of airplanes produced. In creating units, a four-engine bomber and a trainer each counted one. Emphasis is increasingly on

however aircraft and the result of that emphasis will continue to show in increased weight.

The 10,000-a-month production, set more or less arbitrarily as a goal, may not be reached at all, although unit production probably will continue to approach it. Actual output, however, will be well above 1043 weight, barring entirely unexpected circumstances not now foreseen.

Schedules Generally Met: Another important factor in last month's production was the fact that virtually every aircraft company in the country met or exceeded its schedule, only a very few plants were slightly under schedule, with the vast majority a 10 to 15 percent above and Aircraft Production Board officials were moved to comment that "speaking of the indus-

try as a whole, the achievement was indeed outstanding."

There was an indication that the situation was on the way in the report on November production which showed deliveries that month 97 percent of schedule. It was particularly pleasing to the industry at that time, since it had vivid recollections of production months that exceeded all possibilities only to hear that, while production was good, it was still below schedule, a situation that prompted unflattering criticism of the industry to contend that the airplane makers were falling down on the job.

Tactical Aircraft:—The Board emphasized the tremendous increase in the output of tactical aircraft in the January schedule, the percentage now being 22 percent of the total, with 59 percent of these combat types. In both categories, January acceptances exceeded schedules and also December deliveries.

The increase in urgently needed combat types, such as heavy bombers and long-range fighters virtually balanced off the previously announced decrease in trainers and other tactical models which had been reduced in the schedule to approximately 18 percent of December acceptance.

Board officials pointed out, however, that increasing effect and continuous improvement in manufacturing efficiency will be necessary to maintain this pace.



SPERRY BOMBSIGHT SCHOOL:

More than 14,000 persons have been graduated from the service school of Sperry Gyroscope Co., where men from the armed forces are instructed in operation and maintenance of precision, flight and air instruments. Above, Army Air Force students master the Sperry bombsight.

New Curtiss-Wright Unit Can Test 5,000-hp. Motors, 30-ft. Propellers

\$550,000 structure gives company probably largest private laboratory of kind in world, officials say.

A proving ground for aircraft propellers, built to meet aviation needs of the future, has been completed by the Propeller Division of Curtiss-Wright Corp., at Caldwell,

N. J., to handle tests on propellers up to 36 feet in diameter and air-cooled and liquid-cooled engines of 5,000 hp. G. W. Vaughn, president, said

the \$550,000 building was constructed by the company without government aid and gives Curtiss-Wright the largest privately-owned propeller test facility in the country—perhaps in the world—in which stress-laminated airflow and vibration conditions similar to those encountered in flight are duplicated. In addition, he said, from drawing board into flight, Curtiss-Wright is now equipped with the most modern and complete privately owned laboratories and test equipment for aircraft propeller development.

Ahead of Phase Developments—Robert L. Earle, Curtiss-Wright vice-president and general manager of the Propeller Division, said that "in operation, these new test cells, we are stepping far ahead of current engine and aircraft requirements."

Shown to Press—The new equipment was recently shown in a newsroom located in the Wright Cyclone. At 1,325 propeller rpm, the blade tips on this type of propeller, 16 feet, 3 inches in diameter, being tested on the Wright Cyclone 18 engine of 3,350 hp.

Propeller testing starts in the experimental engineering laboratory where, with electronic vibration apparatus, engineers are able to vibrate to destruction within a short time propeller parts that a piston would not shatter in 10,000 hours of actual flight. These tests for structural qualities often are carried on while propeller blades still are in the design stage.

Further Test Cells—Once these experimental requirements have been met, they are ready for assembly and further testing in the new cells.

The new cells are 38 feet square with 31-foot ceilings. Both intake and outlet of each cell are horizontal. A vane, 31 feet in diameter at its narrowest point, assumed the best possible air-flow. From a front section 38 feet square, the vane contracts to a 31-foot circular section and expands gradually in the after section to 38 feet.

Control—Since control of the engine in an essential part of propeller tests, the two functions can be carried on simultaneously.

A combination of cooling systems permits precise control of engine operation. Two auxiliary blowers totaling 1,100 hp for cooling of air-cooled engines can be used simultaneously in one of the cells.

A 48-inch jet cooling blade slides forward toward the propeller and it covers the spinner and is within a few inches of the propeller

blades. The other blower can be used as either a section or pressure blower for cooling either pusher or tractor type propeller installations.

Innovations—Other innovations include the instrument panel which surrounds the 6-by-7-foot observation windows for each cell in the control control room; facilities for easy interchange of engines so the propeller model can be mounted and run at the highest stress conditions for any desired length of time.

For endurance tests, covering several hundred hours, two or more engines of the same model can be used interchangeably, since an engine's performance sometimes varies, causing changes in propeller testing conditions.

97-Ton Pull—Tire need for rugged tests is evidenced by the fact that centrifugal force exerts a 97-ton pull on each of the fast-rotating blades of the Wright Cyclone. At 1,325 propeller rpm, the blade tips on this type of propeller, 16 feet, 3 inches, travel 1,098 feet per second. In terms of the 16-foot, three-blade propeller on the Martin Mars, this pull on each blade is 43,500 pounds greater than the gross weight of the fully loaded Mars on its recent Panke flight.

Fairchild Aviation Changes Firm Name

Says "Cessna and Insurgens Corp." more aptly designates company.

Fairchild Aviation Corp. has changed its name to Fairchild Cessna and Instrument Corp. to describe more clearly the content and its products. It will have no connection with Fairchild Engine and Airplane Corp. an affiliate.

James J. Ogburn, president, said the board of directors felt that, in view of the corporation's aviation and business activities, consisting primarily of manufacture and sale of precision instruments and equipment, the old name was somewhat misleading. Products include aerial cameras, of which the firm is the country's largest manufacturer, electric gas solenoids, camera machine guns, aerial sextants, radio compasses, sound recording instruments, electrical motors, and non-toxic photo laboratory equipment.

Founded by Fairchild—The company was the first of a group of



Propeller Parts Vibrated to Destruction: Ralph M. Gierke, chief experimental engineer of Curtiss-Wright Corp. Propeller Division, and one of his engineers, Charles Steffler and Ferret Dorman, checking a vibration test of the control panel of electronic apparatus in the experimental engineering laboratory. The laboratory is devoted to destruction in a short time propeller parts that would not fail in 10,000 hours of flight.

companies founded by Sherman M. Fairchild, pioneer in aerial photo equipment research and manufacture. Fairchild is chairman of the board.

The company has a subsidiary, The Fairchild Aerial Surveys, Inc., an aerial mapping firm.

Fairchild is chairman of Fairchild Engine & Airplane Corp., which builds Fairchild planes and Ranger aircraft engines. The name-changing action is expected to eliminate considerable confusion which has arisen from time to time.

Conductive Rubber Gun Heater Used

Device said to keep plane's armament at firing temperature during extreme cold.

Development of conductive rubber gun heating pads for machine guns and aerial cannon is announced by United States Rubber Co. The device is designed to keep the plane's armament at proper firing temperature at all times.

Company engineers said development was accomplished after a search had been made for a rubber which would act as an electrical conductor instead of as an insulator.

Eliminates Sparks—Conductive rubber from which the pad is made eliminates sparks and static electricity and until this use was found for the material it had been employed primarily to reduce the danger of explosion in TNT, ammonium and war plants, where highly inflammable products are manufactured.

The unit makes possible preheating of gun breeches while a plane is grounded or maintains required temperatures for instantaneous use at high altitudes. This heating pad prevents pattering of ammunition gas resulting from the effects of extreme cold.

New Boeing Cafeteria

Building will have seating capacity for 1,600 persons.

Part of a \$750,000 program to provide top-notch eating facilities for its employees, Boeing Aircraft will open a huge cafeteria about April 1, encompassing about 50,000 square feet in floor space.

Construction of the building, with a seating capacity of 1,600 persons, is now under way. A food service building will operate 40 mobile food trucks dispensing hot dishes, beverages, meats and desserts throughout the factory area.



Largest Propeller and Engine Test Cells Completed: Two workers standing inside one of the giant test cells built by Curtiss-Wright for its propeller division are dwarfed by the huge 31-foot stretch which controls air flow in the soundproofed cells and the huge steel tube which regulates correct propeller testing, regardless of engine size. Other photo, taken from inside the true venturi, shows a test cell under operating use of the propellers mounted on a radial engine prior to performance testing. Note interior lighting, soundproof construction and engineer's observation post at upper left.



Trail Blazing in the Skies

PIONEERING NEW METHODS



ELECTRIC FURNACE BRAZING OF PARTS INTO ASSEMBLIES—a highly successful Goodyear Aircraft adaptation of furnace brazing permits assembly from simple machine parts of many items that formerly had to be "hogged out" or welded—saving time and labor, and producing a strong part at low cost.

HOW GOODYEAR AIRCRAFT CORPORATION SERVES THE AIRCRAFT INDUSTRY

1. By constructing sub-assemblies to manufacturer's specifications.
2. By designing parts for all types of airplanes.
3. By re-engineering parts for mass production.
4. By extending our research facilities to aid the solution of any design or engineering problem.
5. By building complete airplanes and airships.

BUILDING PROVEN AIRCRAFT



THE DEADLY FG-1 CORSAIR FIGHTER is being built by Goodyear Aircraft, now one of its principal producers. The quality of Goodyear craftsmanship and methods, as demonstrated in production-line output of this "hot" airplane, has won high commendation from the U. S. Navy.



Victory Aircraft's New Board Named

Austin follows resignation of J. P. Nicholl, president.

Canadian government has appointed a new Board of Directors for Victory Aircraft, Ltd., government-owned company manufacturing Lancaster four-engine bombers near Toronto.

President Douglas—J. P. Nicholl, Canadian mining financier, resigned as president, it was announced at Ottawa and his fellow directors expressed a wish to retire at the same time, so that a new president would have a free hand in reconstituting the Board.

V. W. Scully, of Toronto, has been named president of the company, retaining as president of the government-owned War Supplies, Ltd., a corporation handling purchase in Canada by agencies of the United States government.

Other members of the new board are: Harold S. Hedke, president of United-Carr Fastener Co., of Canada; Maj. J. E. Hahn, director-general of the Canadian Army technical development board and president of John Inglis Co., Ltd., of Toronto; Richard Sikely, grand



RCAF USES SCRAP:

Royal Canadian Air Force has devised from scrap tubing a convenient dolly for a single oil drum and pump, for use in maintenance and servicing at RCAF training fields.

John representative of the International Association of Machinists, and L. F. Winchell, vice-president



2,000,000 MODELS FOR IDENTIFICATION TRAINING:

That is the estimated total output of the model aircraft industry which turns out plastic identification models of almost every Allied and Axis plane for training use. These models were molded by Crozer Manufacturing Co., from Lustranik, product of Celanese Cellulose Corp.

and general manager of Hinds and Deane Paper Co., of Canada, Ltd., Toronto.

Films Train Workers

Visual training aid so to give employees, subcontractors.

International Aircraft has set up an educational department to give visual training aid to its employees and the firm's subcontractors, with 10 pictures in sound, running from 12 to 18 minutes, covering such subjects as wood-working, aircraft repairing, hot-dip process and steel tube structures. The department is under the direction of J. P. Dobary, with R. H. Hempstead as technical assistant.

Dream Planes Out

Automobiles of the immediate post-war period, like general aircraft, probably will follow conventional lines and be similar to those available before the start of hostilities, although the post-war "dream car" like the post-war "dream airplane" "is a wonderful thing to dream of."

Charles F. Kettinger, General Motors research vice-president, an inventor of many automobile improvements, has identified as a myth the idea that the first cars after the war will have transparent, plastic top slats like an org. or detachable helicopter blades to permit the car to take to the air.

"I think there are wonderful things to shoot at and I am just enough of an optimist to believe we will some day get something like that or even better," he said recently. "But I believe the process is going to be evolutionary, not revolutionary, just as it always has been."

Fleetwings Expands

Plans for two new buildings are announced by Fleetwings, division of Kaiser Corp., Inc., of Hazelton, Pa., to further perfect its straight-line-flow production system.

One new building will house the shipping, inspection and finishing departments at Plant One, and a new building at Plant Two will be constructed for exclusive use of the shipping department.



UNSUNG HEROES

Among the most important developments of this war are Firestone bullet-sealing fuel and oil cells. On every fighting front they have proved their merits and saved the lives of thousands of flying men.

Today, Firestone is making a wide range of rubber, metal and plastic products for the aircraft industry. Many of them are not only manufactured by Firestone, but also conceived and designed by Firestone.

Whether your problem is one of development, design, or volume production, a Firestone engineering representative is ready to help you.

Agents in the State of Pennsylvania with Richard Gandy and the Firestone Supply Division, Hazlet Springs, near M. R. C.



**A Typical Firestone
Bullet-Sealing Fuel Cell**

Copyright 1945, The Firestone Tire & Rubber Co.

Firestone
AIRCRAFT COMPANY



...to meet Aviation's most
variety of needs



OVER ALL DIMENSIONS
Chassis 48 in. wide
Wheels and tire pilot
37 in. high x 24 in.
wide x 48 in. long

★ SPACE COOLING
★ HUMIDITY CONTROL
★ REFRIGERATION
in a single unit

When the
Waukesha
Unit is operating,
its Mobile
Refrigerator
Unit is ready
to be moved by
one man to
make effective space to be cooled.

Generator that is placed wherever convenient
... with Portable Refrigerator (complete on
one 60 Gall.) is easily moved by one man to
make effective space to be cooled.

Supplying refrigeration at low temper-
atures for perishables... or cool storage



Preservation of glass panel to
take off in diverse circumstances



For photographic laboratories, mobile
and permanent, and dry film storage



From cooling of non-permanent
or permanent... or stored equipment



PERSONNEL



Red Washburn George

Pan American Airways announces that Fred H. George, former PAA chief inspector at Los Garinos Field, has been transferred to the Alameda Division, Richard Washburn is chief inspector at the trans-Atlantic base at Los Garinos Field, and Thomas H. Reed serves as maintenance superintendent at the same base. C. E. Jack Washburn will assume Radio Station Stationer at Denver's Stapleton airport and is formerly field superintendent at Brownsville, Tex.

William A. Peterson, president of United Air Lines, has been elected a member of the board of Stewart-Warner Corp. Frank A. Hays, vice-president and director was named owner vice-president.

William L. Moore has been named vice-president of the Latin-American Division of Pan American Airways System to coordinate all the Latin-



Morrison

American services of Pan-Am are Headquarters will be at Miami, Fla., and operations formerly handled east by Eastern Division of Moore and western division at Brownsville, Tex., will be consolidated.

Earl W. Eklund, until a year ago general sales manager of the Taylor-Craft Aviation Corp., has been appointed assistant to president James C. Hart.

Delos W. Russell, director of communications for American Airlines, has been elected president of Accumulated Radio Inc., a non-profit organization owned by the domestic airlines.

Capt. William E. "Dusty" Rhoades (formerly United Air Lines pilot, is Gen Douglas MacArthur's personal pilot.



Capt. Rhoades

and has flown him on several occasions in connection with the company's military transport operations for the Air Transport Command.

Due to the problems arising from contract terminations and revisions from Armstrong Co., has named Ray T. Kelley, formerly civilian automation supervisor, to be contract negotiation supervisor. Earl McLean has been designated contract termination supervisor in the accounting department and O. R. McNeal will become contract administration supervisor in place of Kelley.

George F. Lee has been appointed advertising manager of Walker Kodak and Co., Inc., manufacturer of various decade fire-extinguishing and aviation equipment. He replaces C. E. Caswell, who has been named director of product development in charge of post-war planning.

H. M. Hahn, formerly vice-president in charge of production at St. Louis Aircraft Corp., has become general manager of the Eastern 112 Burlington plant. An aviation pioneer, he entered the field in 1925 with the Swallow Aircraft, Wichita, Kan. He has a commercial pilot's license while at St. Louis, he built the PT-23 and PT-19 both Fairchild designs.

Law E. Palfrey, who has been secretary of the National Safety Council's Advisory Committee for Aviators, is being retired after 25 years' service with the Equitable Life Assurance Society, where he has served as commercial supervisor. He will become affiliated directly with the Council, under Leslie J. Rosemond, vice-president of traffic and transportation. He will be located at the Council's headquarters in the Chrysler Building, New York.

Henry F. Schaefer has been named manager of the aeronautical section of the field engineering department of R. V. Goodrich Co.

Clair Henry B. Temple, Naval aviator, has reported for duty as special assistant in the Aviation Planning division, Navy Department.

Advancement of Col Donald C. Switland to chief of general staff division, National Command, AAF, is announced at Wright Field, Dayton. Col Switland succeeds Maj. Gayle James E. Jones, who has been given a new assignment. The new professional chief formerly served with the legal branch of the contract office at Wright Field, and has been assigned there since April, 1942. He is a graduate of Princeton and the



Col. Switland

Harvard law school and served overseas in an infantry battalion in the World War.

WAUKESHA portable REFRIGERATION and AIR COOLING UNIT

Specifically developed to meet Aviation's many needs for—
space cooling... spot cooling... humidity control... refrigeration—
all in one unit!

Now expansion used by armed forces or commercial lines—any type... anywhere... anywhere—may be quickly and easily pre-installed by the Waukesha Portable Refrigeration and Air Cooling Unit.

Spot cooling too, is instantly available... in completely or semi-enclosed structures, or in the open air... wherever supplies are back, forward or rearward.

Because it is exceptionally light in

weight, exceptionally compact, exceedingly mobile... wherever in operation... with a refrigeration capacity of 1 to 3 tons—Aviation can put the Waukesha Unit in an almost endless number of uses.

Completely self-contained, it consists of: (1) Portable Refrigerator with automatic defroster to maintain low temperature operation, equipped with flexible refrigerant lines; (2) Mobile Condensing Unit with two-stage rotary compressor direct-connected to 4-cyl. liquid-cooled engine using stainless fuel. Wheel or skid mounted. Wide air intake.



WAUKESHA Airborne

ENGINE GENERATORS

Lightweight, liquid-cooled engine generator 10 KW, 181-125 110 volt DC or 60-60 KVA, 110-120-240 volt AC. Airborne models from 200 to 140 lbs.

Paul Foyas has been named design engineer consultant on special projects for Republic Aviation Corp. He will handle projects outside the factory, requiring special engineering assistance.

Harold A. Olson has been named assistant in Pennsylvania-Central Airlines' Vice-President, J. J. O'Donnell. Olson has been district traffic manager in Detroit. Previously he was traffic representative for American Airlines in Detroit. He will now be stationed in Washington, D. C.

Philip G. Johnson, director of Boeing Aircraft Co., has been elected to the board of trustees of the Committee for Economic Development, Johnson, who serves as regional vice-president of the CEO for the Pacific Northwest region, is the first aircraft representative on the CEO board of trustees. The Committee is an independent, non-government organization for the stimulation and assistance of business by post-war production and employment and is financed by voluntary contributions.

Republic has enlarged its patent portfolio to include Alford Neuberger, president; John F. Ryan, vice-presi-

dent and engineer; How Laska, works manager; Gordon C. Steyer, division products analysis department; Chester Kawa, production control manager; R. W. White, commercial projects engineer; Robert Ruzman, administrative engineer; and C. B. Wilson, acting patent attorney. The committee will give careful consideration of each invention submitted by Republic employees, the company stated.

Rear Admiral Osborne D. Harrison, former commander of the aircraft carrier Enterprise, is in charge of the Naval Primary Training Command, with headquarters at Norfolk, Virginia, Va.

Louis Cal Bernard W. Hanson, U. S. M. C., who has been physical director in the Navy's preflight training program, has been named assistant director of the Naval Air Training Center, Pensacola, Fla.

Marvin J. Berlin, has been appointed vice-president in charge of engineering for Aero-Engine South Corp., Springfield, Mass. Berlin was formerly with General Motors and chief engineer of the Diesel engine division of the Diesman Engineering Works, Ltd. of Montreal, and recently ter-



JOINS AERO CHAMBER:

E. E. Lehnop has been appointed head of the new research and statistics department of the Aeronautical Chamber of Commerce. Lehnop was formerly assistant to the general sales manager of General Gyroscopic Co., Inc., where he was actively engaged in statistical and research work. Prior to that he was manager of Market Research for Westinghouse and was assistant sales director for Horace E. Dodge Boat and Motor Corp.

mainted his services as squadron leader and chief technical instructor of the school of Aeronautical Engineering in the Royal Canadian Air Force.

James M. Shays has been named by Republic Construction Corp., Toledo, to India to supervise installation of its recently announced ship-to-shore mail hoist in military airplanes. He has been in the company's engineering department since 1937.

Earl E. A. Brown has been named manager of Turboid Engine and Auxiliary Corp., division of Republic Aircraft. He replaces James Gould Jr., who has been transferred as commander to the office of the works manager.

Stanley C. Harris, general counsel for Pennsylvania-Central Airlines and member of the law firm of Shapiro and Roberts, has been named vice-chairman of the Aviation Insurance Committee of the Insurance Section of the American Bar Association.

TRANSPORT

Report to CAB Urges Caution In Expansion of Air Transport

Examiners declare moderate extension of network may be justified but warn of dangers in developing system beyond value of service.

By MERLIN MICKEL

Extensiveness of the nation's air transport network through addition of feeder lines to smaller cities, while justified to some extent, is not warranted on a large scale and should proceed cautiously but only to the government, goes beyond the value of the service.

An examiner's report to the Civil Aeronautics Board reaches this conclusion from the lead-feeder-ship investigation held last Sept. 28 to Oct. 25. The report is by William J. Madden and Albert J. Smith.

Expansion Justified.—They conclude that "there is justification for some expansion, even though the limits cannot precisely be determined. If the expansion is accomplished by extending air service of the type and quality currently provided by air carriers, the limit of expansion will be narrower

than if a more economical service can be provided."

Generally, their findings are not too favorable toward the feeder service outlook. They conclude that prospects are not reassuring in passenger traffic, mail or cargo. But they do feel that there are many communities that would support scheduled air service that do not now have it, particularly if that service encompasses the economy of operation that might be attained through use of smaller aircraft and reduced but adequate overhead and maintenance standards.

Must Meet Regulations.—Any expansion of air services, they point out, "must conform to the standards of the Civil Aeronautics Act, and the cost to the government must bear a reasonable relationship to the public benefit accruing

therefrom. It would, therefore, be difficult to expect that air transportation can be made available immediately in every urban community."

The report suggests a correspondence between the points of view taken by existing air carriers and would-be carriers, with the conclusion that "expansion should be effectuated in a manner utilizing the best features of each." Operating carriers propose expansion downward in small cities or existing routes as traffic develops. Prospective new carriers propose the general establishment of new services "to attract and utilize" future traffic.

Service—Present carriers "urge as a reason for putting small cities on existing routes the fact that the service will be provided with the type of equipment used on the long haul routes," and then propose "the use of surplus aircraft and the complete cultivation of the small city and the short haul market."

The prospective carriers, on the other hand, "have the common characteristic of emphasizing economy and low operating standards of service." Instances of possible economies were cited: smaller craft, single-pilot operation, elimination of such extra services as cabin attendants and meals, and intermediate station passenger reduction.

The examiners feel no need to change in the Board's interpretation of the Civil Aeronautics Act, keeping air service carriers out of the act, although about 15 applications of surface routes or their affiliates



15 YEARS' SERVICE WITH UNITED AIR LINES:

B. B. Gregg (left), United's director of sales, and Harold Craig, (center), vice-president in charge of traffic, are shown receiving 15-year service pins from United Air Lines' president, W. A. Patterson.



Earl E. A. Brown has been named manager of Turboid Engine and Auxiliary Corp., division of Republic Aircraft. He replaces James Gould Jr., who has been transferred as commander to the office of the works manager.



UNITED'S "OLD BALDY" SETS DISTINGUISHED COMBAT RECORD:

The new-comer Flying Fortress, "Old Baldy," has seen so many combat missions it left United Air Lines' bomb-er manufacturing sector at Chesapeake that the War Department recently took special note of its combat record. Still flying missions in the Southwest Pacific,

the plane already has done 500 hours on 17 combat missions, and has been credited with destruction of four enemy vessels totaling 24,950 tons, two transporters, a Zero fighter, two searchlight positions, and an anti-aircraft battery.

- are now on file. Nor do they think the Board should consider helicopter applications before that type of machine is available commercially.
- **Recommendations**—They make eleven recommendations, which may be summarized as follows:
 - Investigations before an application for mail service should be expanded to small cities, in part by addition of points to existing routes and in part by new routes authorized by Congress.
 - Such carriers should be designated as feeder air carriers.
 - Authorization of service in that class should require showing that operation economies will be incorporated.
 - A maximum rate of 25 cents a mile for mail transportation should be fixed to assure operation on an economical basis.
 - Limitation on non-stop and stop-step schedules should be set to keep proper balance between operations by feeder carriers and other air carriers.
 - Levitations should be imposed upon the expansion of air services by generally operating carriers in order to allow a field of operation for feeder services, with extensions by operating carriers limited to rates of 25,000 or more cents in speed class.
 - Air services by surface carriers should be "rigidly confined" to ac-

- craft only auxiliary, supplemental or incidental to surface transportation.
 - Expansion of exclusively pickup operations should be authorized only in the unusual case where partial routes may require it, and generally where combination pickup and passenger service is contemplated.
 - Service for feeder services should permit carrying of passengers on planes also giving pickup service, service with single-engine aircraft and non-pilot operations.
 - Feeder service applications should be heard with other applications in the same area, in a consolidated proceeding.
 - Helicopter applications should be deferred until commercial helicopters are available.
- The examiners held down to two the questions involved in the preceding list, justification for general expansion of air service, and second, how and to what extent it may be accomplished.
- They cite individuals in the investigation that the Board should undertake to provide air service to every community in the United States, that every community is entitled to a field of operation for mail service, that expansion has been proposed to help solve post-war economic problems by providing a market for aviation manu-

facturers and employment for technically trained returning servicemen.

► **Difficulties**—But, they say, however desirable this might be, such an expanded air transportation system is not possible under the law, as it now stands—or without a new governmental financial policy—states the Civil Aeronautics Act requires that such development be "properly adapted to the needs of the commerce of the country, the postal service, and the national defense."

State Board Claims Interstate Control

Massachusetts group says it also has right to issue permits for local routes.

Massachusetts Aeronautics Commission says the state alone is entitled to issue permits for air routes wholly within the state and challenges federal attempts at "any regulation, economic or otherwise, of intrastate air commerce."

The Commission, after a study of the Lee bill, favors an independent Civil Aeronautics Commission with the right to impose uniform safety regulations. It opposed any powers to such a commission to conduct a training program or control "routes and rates" for the interstate transport. The state group also came out for re-establishment of the Air Safety Board with independent powers and regulation of intrastate and foreign air commerce. It favored power to an administrator to promulgate "safety development, air transport facilities, financing, aircraft in private and commercial flying, and aerial zones in such programs."

James C. Hunsaker, of Massachusetts Institute of Technology, chairman of the National Advisory Committee for Aeronautics, is a member of the State commission.

Overhaul Record Set

Far ahead of schedule, Southwest Airlines reports it has turned out its 1,000th military engine at its Overhaul Plant at Granddand Field, Ariz. Southwest claims that its depot, which is under contract to the Air Service Command, is one of the first to do mass overhaul of the aircraft and engines on a successful basis.

Route Problem Main Item on CAB Agenda

Report for year reveals data on 160 foreign carriers.

Civil Aeronautics Board's agenda is apparent from its report for the year to Nov. 1, 1943, currently on file with Congress.

The dominant new route problem is one of the important items on which it is working earnestly, but it also expects to go further into the international route question, the report indicates. The study is a mixture of post-war international air transport routes—on which it has received suggestions—has not been completed. It is going ahead, however, with consideration of Little America route applications. A report in this latter connection was completed recently by the Board's research and analysis division.

► **Data Analyzed**—The report disclosed that the Board is analyzing data on the approximately 160 foreign air carriers, on which "there has been a serious



FOOD FOR STORM-BOUND CLIPPER CREW:

Food was passed to the lone crew on one of Pan American's Clippers when high winds and choppy seas prevented approach of a land clinic to rescue the man. A crew member stands in the bow hatch of the ship boat, riding in its berth in Beverly City at Le Grand Field, to haul the food aboard. The crew was marooned 11 hours.

lack of knowledge." Such data, recovered from various sources, are carefully analyzed for comparison with other information and reports of United States air carriers. Most of the reports based on them are confidential because of the war.

CAB's research staff also has been engaged on special studies, several of a confidential nature, for other governmental agencies, and some directly related to war activities.

An interest survey was released as have been periodic statements on the air service pattern in connection with what such service should comprise—and state ready at the application for services, such as also with the Board designate the service to be operated as "feeder," the term has required such popular acceptance that there is not much prospect of substituting any new or different term.

The important thing is the establishment of consensus of operation in such new services, and that the latest whatever it may ultimately be, refer to services which are established on a schedule with the Interstate Commerce Commission, as originally prescribed. Accordingly, this type of service will be referred to as "feeder service."

Attempts to define "feeder" or "feeder," the report said, either would the term or drive a distinction between them and "trunk line" service.

The Lee bill to revise the Civil

Aeronautics Act, says in its report, contains most of the recommendations it has made for needed amendments, but two the Board regards as of "outstanding importance" are not in the measure as it was reported out by the House Interstate and Foreign Commerce Committee. The Board previously recommended that it be given the same power to fix passenger and cargo rates in foreign air transportation as it has in domestic air transportation, and that it be given power to approve issuance of securities or assumption of obligations by air carriers.

► **Operating Expenses Up**—CAB reported to Congress that for fiscal 1943 total operating revenues of domestic air carriers were \$114,224,794, against \$167,221,264 for fiscal 1942. Operating expenses were \$82,649,930 for the last fiscal year and \$92,204,256 in 1942. Total operating profit before non-operating items and aviation taxes was \$31,574,864 for fiscal 1943, or 28 percent of total operating revenue. Fiscal 1942 operating profit was \$14,256,553.

The increase in total revenues was due to such-and-such, the Board pointed out, since mail revenues dropped from \$20,711,429 in fiscal 1942 to \$23,745,970 for 1943, and "measured by volume of service performed, the drop in fiscal year was even greater, approximately one percent-mile declining from 67 1/2 mills to 62 1/2 mill."

Examiners Report on Feeder Lines

Examiners Madsen and Bartel, reporting to the CAB on the feasibility of pickup service investigation, made three comments on traffic potential for air service operations.

► **Passenger**—The prospects of any considerable volume of passenger traffic at small cities generally are not promising.

Daily commuters are not likely prospects for air transportation, at least at the present level of fares.

On the basis of available evidence, there is little prospect of benefit to the lower income classes below an average of 5 cents per mile, in fact, there were some suggestions that a higher per-mile fare should be charged for shorter journeys.

Mail-Share prospects for development of any considerable volume of item-mail traffic at small cities are not encouraging. It is apparent that mail rates in excess of compensation for services rendered must be anticipated.

Whether increased revenues which would result from a wide extension of air mail service to include the rural community

which are concerned in the proceeding would be sufficient to meet the additional expenses resulting from such an expansion, is extremely doubtful.

While there would be some benefit from a general expansion of air service to include a great many small cities, there is no indication that there would be a substantial improvement in the mail services generally as a result of such an expansion.

Charge—There are certain fundamental difficulties encountered in connection with the development of air service at small cities which will be particularly hard to contend with in small city services. In addition, the over-all cargo transportation requirements for small cities are relatively small, and consequently that portion which is susceptible to development of item-mail traffic at small cities is correspondingly small.

It is our conclusion that expansion of air service to small cities, at least in the manner proposed to be accomplished without any material financial assistance in the form of revenue from the transportation of property.

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Air Traffic Given Edge in Caribbean

Center cites air advantages in report on Latin-America area

Nowhere else in the world does air transportation have the advantages over surface transportation that it does in the Caribbean area. In the studied opinion of the Research and Analysis Division of the Civil Aeronautics Board's Economic Bureau...

This view was contained in the report by Frank H. Crosser, division chief, and his staff on overseas air service patterns in the Latin America area.

▶ **Routes**—Altogether the entire historic market—the survey stated, “has moved at rates in excess of those which seem compatible with probable future air transport costs. In terms of time and comfort, the advantages of air over surface transport for the entire region are striking.”

There is almost no limit, it was said, to future possibilities for both cultural and recreation travel between the United States and the Caribbean area. The United States is obviously the trade and travel center for this region, and air transportation is generally the most advantageous mode of travel... The high per capita wealth in the United States was found to be especially good in the Caribbean area, and travel between it and the off-shore island centers depends little on the purchasing power of the latter.

▶ **Market**—“It seems reasonable to suppose,” the report said, “that the market represented by combined 1950 sea and air travel will be very substantially exceeded, in the first decade after the war, under favorable conditions of cost, service and international relationships.”

In discussing factors influencing growth, the survey declared the “trend the standpoint of sea fares charged, generally all of the business sea travel is within or above the range of typical charges for domestic air transportation.” There was speculation as to whether the reduction of passenger fares by an international carrier from eight to five cents would produce more or less total revenue and Crosser and his people pointed out that “the marine air era has typically followed the practice of expanding service in anticipation of traffic growth and the reduction of traffic unit costs,” a policy which “ap-

pears to have been well rewarded by improved earnings.”

Airport Management Study Starting

A new airport management study set up within the Civil Aeronautics Administration is the latest of profitable operations of municipal airports will start work shortly.

Kirk Baldwin, head of the unit, said assistance of municipal and state officials, airport owners and manufacturing and transport executives will be sought in working out methods that should result in efficient management of the country's 1,700 publicly-owned airports.

All sources of income open to airports will be studied minutely and Baldwin believes the assembled facts and recommendations will answer the many queries CAA's Airports Division receives as to how good aviation can pull its own weight after the war as far as airport management is concerned.

200 to Attend Fort Wayne Talks

About 200 airport, airline and city officials indicate they will attend the two-day airport planning conference at Fort Wayne, Ind., Feb. 16 and 19, according to Bob Scholt, general chairman and manager of Service Panel at Fort Wayne.

Among the speakers and their subjects:

- John J. Hogan, Civil Aeronautics Administration airport engineer, on “Future Airport Design and the CAA Airport Program”;
- Louie Irwood, TWA, “Airline Leases and Operations”;
- R M Averill, Pennsylvania-Central “Leased Fees and Airport Revenue”;
- A. F. Brown, United Air Lines architect, “Airport Terminal Problems”;
- N. B. Jann, American Airlines, “Future Airport Facilities to Handle Post-War Traffic and Design”;
- Howard E. Crosser, minister at Lunken airport, Cincinnati, “Are Airlines Paying Their Share of Airport Expense?”;
- Alfred MacDonald, Paris and Airport Director at Wichita, “Comments on Airport Financing”;
- Walter Winslow, manager of Indianapolis Municipal Airport, “Should Municipal Airports Operate as Profit?”;
- Carl Gray, CAA Airport Man-



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American Capital Abroad Expected To Spark U.S.-Sponsored Aviation

Intensive development of air industry in Mexico and China forecast with revival of normal trade and clearing of war-damaged commerce lanes.

By ROGER WILCO

Recent formation of a Mexican investment company with the help of American capital, while seemingly unrelated, may be expected to have considerable influence on the future development of aviation facilities in Mexico. A pattern for aviation expansion in other countries may also be in the making.

The Mexican investment company—Inversiones Latinas, S. A., now known as Inverlat—received its capital from the banking firm of Kuhn, Loeb & Co and a Mexican financial group headed by the Banco Nacional de Mexico.

Investment Studies—Stated purpose of the newly formed company is to take advantage of opportunities for investment in several Mexican enterprises so that trade between Mexico and the United States may be fostered. In addition, the company plans to make its services available to interested investors elsewhere in the world by offering to manufacture or sell their products in the two countries.

What has all this to do with aviation in Mexico? Simply this: The promotion of trade and commerce in and with Mexico will serve as a stimulant to expanding aviation activity in that country. Consequently, air transport services will be encouraged to expand in that area and will by its own activity generate considerable trade activity. The existence of TACA in Central America is an example of an air service that made possible new and growing developments where none existed in the past.

Three U. S. Firms Interested—Industry and commerce are the traditional beneficiaries for all transportation media. For this reason, the recent Mexican move—holding forth the promise of constantly expanding trade activity—will be a particu-

larly encouraging development to the American-supported airlines now in that country and to those carriers looking in that direction.

There are three United States companies presently interested in Mexican aviation. Pan American Airways and its wholly owned subsidiary, Compania Mexicana de Aviacion, S. A., have long been in the field. Far more than a year ago, American Airlines, Inc., through a completely owned subsidiary, has been operating from El Paso to Mexico City. Only recently, the Civil Aeronautics Board approved United Air Lines' initial 75 percent stock purchase of Latin Aereas Mexicanas, S. A., known as LAMSA.

Investment—The actual investment of Pan American and American in Mexico are not presently available but are known to be substantial. United expended \$485,150 for its partial investment. It has indicated that it is prepared to spend \$1,000,000 for improvements at development of LAMSA. An additional \$1,000,000 expenditure also was promised as soon as necessary equipment and facilities became available. It is evident that only a start has thus far been made in the flow of American aviation capital to Mexico.

One of the advisers to the newly created Mexican investment company is Hugh Kuhn, Loeb, former partner of Kuhn, Loeb & Co, and now director of research and planning for Eastern Air Lines. One of Eastern's routes reaches down to Houston and Brownsville, Texas and which can serve as convenient takeoff points to Mexico City. At least, this is an interesting point of speculation. Eastern already has filed for Latin-American air routes.

Pattern—This Mexican venture

by American capital also may set a pattern for similar participation in other countries which can submit to economic development. The most likely is highly unlikely that Kuhn, Loeb & Co could have gone ahead with this deal without the approval—tacit or otherwise—of its own government. The possible government opportunity also feels favorably inclined as its national bank is a partner of the enterprise.

This arrangement, if repeated elsewhere throughout the world—and there will be many devastated countries—should provide a natural basis of widespread support to the international aviation aspirations of American carriers.

Events are developing in China where promise of modernization may encourage U. S. capital to that country with underlying implications for aviation.

China—Changed—The Central Executive Committee of the Chinese National Government recently adopted two resolutions welcoming friendly foreign capital. One resolution restricts an old regulation that one 51 percent Chinese stock interest in joint capital arrangements as well as a majority of the board of directors. Also provide individuals are free to negotiate foreign loans for their enterprises.

The second resolution provides for the industrial reconstruction of China, under both state and private auspices. The government promises to give private industry an environment, and protection of the law. Export industries will be especially favored, and the public enterprise will be restricted.

Industrialization—What kind is better, China will assume the mantle of leadership in East Asia including Manchuria, China companies receive that 51 percent of the world's population. The massive industrialization in store for China will bring in its wake outstanding opportunities for aviation. Distances are vast, other transportation media are under and in the least part, non-existent. These are conditions which should give aviation a tremendous impetus. It will not be surprising to see American-sponsored air transportation plans unfolded for the upgrading and development of China in the near future.

Pan American Airways' 48 percent owned affiliate, China National Aviation Corporation, is already well advanced. (The remaining 52 percent interest is owned by the Chinese government.) There should

be room for other American carriers in Chinese controlled areas.

The pattern of American capital and trade participation in Mexico and which may easily be duplicated in China, may be repeated in Russia, South America and elsewhere. Its full impact to American-sponsored aviation cannot be estimated.

Financial Reports

Air Investors, Inc., reports net assets as of Dec. 31, 1943, at \$1,552,783 equal to \$3.30 a share on 383,234 common, compared with \$1,023,349, or \$2.33 a share Dec. 31, 1942.

Aircraft and Diesel Equipment Corp., reported for year ended Nov. 30, last, net income subject to reorganization, of \$462,128, after \$56,242 taxes, equal to \$1.23 on 375,600 common shares, compared with \$282,716, or \$1 cents a common share for the previous fiscal year, when \$667,561 was distributed for taxes. Net sales were reported at \$1,348,544 as compared with \$1,708,477.

Airfield Way Corp. reports for six months to Dec. 31, net profit of \$22,384, or \$1.01 a share on its 22,111 common shares outstanding. Net profit for the comparable 1942 period was \$285,280, or \$1.96 a share on 145,523 shares of common stock.

Bell Aircraft Pays 60 Million V-Loan

Company's war contracts converted into advanced payment basis; new financing arranged.

Bell Aircraft Pays 60 Million V-Loan

Company's war contracts converted into advanced payment basis; new financing arranged.

Bell Aircraft Corp. has paid in full its obligation under a V-loan credit of \$60,000,000 with 23 banks negotiated Jan. 28, 1943, having converted its army airplane contracts to a basis of Government advanced payments.

At the same time, a new \$10,000,000 V-T loan was consummated with the same banks to run until Dec. 31, 1945. As a result of this transaction, Bell Aircraft's financing of its further plane contracts will become appreciably simpler. The new loan has important advantages with respect to questions of liquidation, a feature not available in the earlier regulation V-loan agreements.

Synthetic—The banks participating

in the new agreement are New York Trust Co., Bankers Trust Co., and Bank of the Manhattan Co., all of New York; Manufacturers and Traders Trust Co. and Marine Trust Co., both of Buffalo, and Union Trust Co., of Pittsburgh.

On completion of this transaction, Bell Aircraft's entire airplane manufacturing business in both the Niagara Frontier and Georgia branch divisions will be financed under the new method. The Georgia division has been under the advance payment system.

Stock Offering

Allen-Charters Manufacturing Co. proposes to issue \$1,000,000 and \$30,000,000 nonvoting preferred shares and the stock is expected to be offered to common stockholders about the end of March.

Details of the new financing were not immediately disclosed. It is proposed that proceeds be used to retire the company's \$100,000 debenture due in September, 1955, and to provide funds for post-war reorganization.

Over 4,000 Douglas A-20's Delivered

More than 2,000 ferried to Russia via Alaska, company says.

Douglas Aircraft Co. has delivered more than 2,899 A-20 Havoc-type attack bombers to Russia, more than 1,688 to Great Britain, and more than are serving the U. S. AAF.

A-20's are helping the Russians roll back the Germans in the current drive. They demoralized Axis troops and cut communications in every stage of battle.

P-70 Conversions

Although as more P-70 Mustang Mustang variants of the greater Douglas A-70 are in production, it is understood that the Army Air Force's recent publicly announced conversion of the Mustang A-70 are based on present conversion operations in various aircraft production centers throughout the country.

A flock of AAF A-50's are being rebuilt and redesignated as P-70's, with added five-foot

Transportation Fleet to Russia—The War Department also permitted the company to disburse that hundreds of Douglas transport planes were flown via Russia via Alaska and that "scores of bombers are still going into Russia" through this gateway.

The Douglas A-20G, Bell Aircraft's Douglas C-47's have been the most popular American aircraft in Russia for some time.

Present output of the A-20, in large scale production since October, 1942, "has now received its most accelerated pace." Some have four 20-cylinder engines and the 30-cylinder type, the company said.

Labor Pooling Pays

Wear Cases plants praise interplant adjustment system.

The system of labor pooling within their plants, devised by West Coast Douglas Aircraft Co., has paid dividends in 100-hour savings.

The seven major Pacific Coast airplane plants, in their determined campaign to increase labor utilization, have been successful last year because of factors over which management normally has little control.

Departments Added—If material departments, machine tools, changes in specifications or other such causes should make workers temporarily idle in one section of a plant, the labor dupliex system (wages or loans time to departments which for any reason, such as shortness of or the increasing difficulty of hiring direct workers, have a shortage of help.

Typical of the system is the labor pool maintained by Douglas Aircraft at its Santa Monica plant where more than 1,000,000 man-hours have been salvaged as more than 100,000 man-hours were effectively utilized since the plant started in January, 1943.

Aid—Employee Efficiency—The average time employed on duplicate operations at that plant since the system was introduced is in the ratio of 10,000 man-hours expended. In addition, this method of personnel control makes more effective the utilization of all workers.

Plans to spread the method to all seven aircraft War Production Council members was undertaken through the Council's production expediting committee, a special task force which trains industry know-how for the substitution of pressing production problems.

For Action Now

FOR WELL OVER SIX MONTHS the aircraft industry has been seeking Superman who would, in some mysterious and superhuman manner amenable satisfying to everyone, recognize the Aeronautical Chamber or combine the Chamber with the various councils, to form a solid front for war and reconstruction.

Superman has never been seen outside the comic strip. Isn't it time for action based on practical considerations?

It was last September that this page said "Once again it appears that the industry's top executives are neglecting to get down to brass tacks and themselves lay out the floor plans for their own structure." That still seems to be the nucleus of the problem. With full and active support of the leaders, the foundation for a going concern could be laid in a day or two.

Superman will never be found because he doesn't exist. Every week the industry is suffering because it does not have a single, authoritative voice—one man who can push buttons and get all jobs or any job done quickly because he has complete and unquestioned backing of the nation's airframe, engine and propeller manufacturers. Must we plunge into reconstruction and demobilization of this industry without any combined planning whatever?

A plan has been suggested to draft Frank F. Russell, capable manager of the National Aircraft War Production Council, to direct organization of a single trade association, and head it. He has the confidence of industry and Washington. He has the unique background of the past important months in coordinating the topmost problems of the men who are directing the air war and those who make the planes which fight it. None of the advantages of the council type of organization need be overlooked.

The added advantages of a united front are obvious. It's time for action. If unity isn't accomplished now, in the press of today's unprecedented problems, some observers doubt if it ever will be.

Keep The Gloves On

THE AIRLINES COMMITTEE for U. S. air policy will advance its cause materially if it makes clear, for the record, that it is content to leave the

extent of competition of its members for foreign routes to the State Department, CAB, and other government agencies involved.

Such a clarification was last week well understood to be in perpetration. The Solomon announcement months back that the group sought "free and open competition—worldwide" suggested big-wild expansion that was never meant.

Such a public statement will help clear the air. Public declarations signed by the principals comprise a phase of any battle fought on the up-and-up. Unfortunately, there are signs that this kind of a struggle may not be planned.

It is to be hoped that Representative Sheppard with his statement alleging lobbying by Pan American Airways is not the bellwether of another knock-down-and-drag-out fight among segments of the air transport industry. No battle depending on sensationalists and fought on the floors of Congress and in newspaper headlines can help air transportation. It could, on the contrary, bring about exactly what some of its current enemies seek.

A vicious struggle based on personalities, for example, and weird charges along to the facts, advantages and disadvantages of competition, could bring down the whole house and take us back to 1884. There is still time to decide to keep the gloves on in this fight, gentlemen.

Engineers Move Ahead

NO MATTER how much uncertainty there may be about the status and powers of the Aeronautical Chamber of Commerce, its hard-working Technical Department under E. W. Norris plows ahead getting things done. There is no doubt about its standing in the industry.

The recent meeting of the department's Airplane Technical Committee in St. Louis is to set up a new subcommittee to propose simplification of procedure for obtaining type certificates from CAA was an eye-opener. The nation's leading aircraft engineers attended in force.

Another encouraging factor is the hearty cooperation with the department of CAB and CAA. According to legend, government office holders are loath to relinquish or simplify regulations. As in the case of the Board's amplified air traffic rules proposed recently, Mr. Norris says it isn't so.

Ross H. Wood

MAKING

1 =



Air power has never been more vital to the success of America and its Allies than at present. Every additional plane supplied for shipment of combat, brings victory that much closer. That's why speeding up even one of the many operations necessary to build a plane, is important—particularly when the operation was difficult, and can now be accomplished in one-fourth the time formerly necessary.

At McDonnell, our Tooling Department recently developed a new type of Form Die for Cowd Skins, which makes possible the shaping of the rolled leading edge of a certain

type of cowd skin, four times faster.

It does the job better, too. For this new Form Die assures greater uniformity in the curved contours of rolled cowd edges. It accomplishes a much more difficult task, this particular forming operation may now be performed with less fatigue and more safety to operators.

This is but one of many new developments and refinements employed by McDonnell in the production of high-quality planes, parts, and plastics for war. But it's one more reason for McDonnell's reputation for meeting production requirements as schedule.

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